

Special Issue

Magnetocaloric Effect and Magnetocaloric Materials—Fundamentals and Applications

Message from the Guest Editors

Although the magnetocaloric effect was observed more than 140 years ago, it is still a very attractive phenomenon. In particular, in recent decades, due to the possibility to substitute classical cooling with freon and similar gases, it has also developed ecological dimensions. The aim is to find new compounds that are effective in this field, e.g., some Heusler alloys are characterized by a higher magnetocaloric effect. Another possibility is a decrease in dimensions, which could be done by microwave preparation. The field of very-low-temperature cooling by adiabatic demagnetisation is also important. All the above-mentioned properties result in a wide variety of technical applications. Therefore, it is very important to know and prepare these compounds. In this Special Issue, we welcome articles that focus on fundamentals and applications in order to prepare them and study their properties, as well as the final products' performance.

Guest Editors

Prof. Dr. Marian Reiffers

Faculty of Humanities and Natural Sciences, University of Presov, ul. 17. Novembra 1, SK 081 01 Presov, Slovakia

Dr. Andrea Džubinská

Center for Progressive Materials—Technology and Innovation Park, University of Pavol Jozef Safarik, 040 11 Kosice, Slovakia

Deadline for manuscript submissions

closed (31 January 2024)



Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



mdpi.com/si/168669

Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/

[metals](https://mdpi.com/journal/metals)





Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



[mdpi.com/journal/
metals](https://mdpi.com/journal/metals)



About the Journal

Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).